Income Inequality And Economic Growth

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Distribusi pendapatan dan pertumbuhan ekonomi merupakan isu penting dalam ekonomi pembangunan. Paper ini menganalisis hubungan antara pertumbuhan ekonomi dan distribusi pendapatan. Paper berkesimpulan bahwa analisis data *cross section* antar negara mengindikasikan tidak terdapat pola tertentu hubungan antara distribusi pendapatan dan pertumbuhan ekonomi.

INTRODUCTION

The relationship between economic growth and income distribution is becoming an interesting topic in economic development at the moment. It is because of the contradiction between the aim of economic development and the facts achieved by economic development; or between normative and positive. Todaro (1994) summarizes that there are three major objectives of development such as; to increase the availability and widen the distribution of basic life-sustaining goods, to raise standard of living, and to expand the range of economic and social choices. It is not parallel with those aims if high economic growth is followed by increasing income inequality. This shows that the results of economic growth are only had by part of the population, not by all the population.

The relationships between economic growth and income inequality are shown through some research or studies that use political economic models and endogenous growth theories. Some studies show that there is a trade off between economic growth and equality in distribution of wealth or income. Alesina and Rodrik (1994) (in Lee and John, 1998) study a model in which growth rate is higher when the initial distribution of wealth is less unequal. This conclusion, more income inequality leads to faster growth, has also been taken not only by Persson and Tabellini (1994) but also Saint-Paul and Verdier (1993, 1993). Moreover, Perotti (1993) finds that the rate of growth depends not only on the inequality but also on the level of income.

In contrast, some studies state that that there is positive correlation between economic growth and income distribution. Fields (in Todaro 1994:137) finds that the traditional-sector enrichment growth typology, in which the benefits of growth are equally divided among traditional-sector workers exist in Maoist China, and a few other revolutionary, socialist economies. Indeed, Nugent (1998:15) has concluded that the rapid economic growth is not followed by significantly raising inequality in the East Asian countries. The famous World Bank Policy Report (WB1993) titled "The East Asian Miracle" and Asian Development Outlook (ADB1996) state that the same pattern -rapid growth and reduced inequality- has already happened in Japan, the "Four Tigers" (Hong Kong, the Republic of Korea, Singapore, and China) and three newly industrializing countries (NIEs i.e. Indonesia, Malaysia and Thailand).

This paper aims to analyse the emperical evidence across countries for the relationship between economic growth and income inequality. Firstly, the trends of the growth and income inequality are presented. Secondly, some reasons of why there is no same pattern across-countries are analyzed. In this section the sources of economic growth and inequality are briefly explored. Finally, some policies are suggested to avoid the contradiction between growth and equality.

TRENDS OF GROWTH AND INEQUALITY

It is believable that high economic growth has decreased absolute poverty and increased social welfare. For example, the results of rapid growth in Japan, NIEs and the "four tigers" have increased life expectancy from 56 in 1960 to 71 years in 1990. They have also decreased the proportion of people living in absolute poverty, lacking such basic goods as clean water, food and shelter (World Bank 1993:4). Absolute poverty means the number of people living below a specified minimum level of income (international poverty line) (Gillis, et. al. 1983:76). The high economic growth shows that there are a lot of economic activities involved such as production, consumption and distribution. Do those mean that the distribution of income is becoming more equal?

Table 1. Trend Growth and Income Equality in Developed Countries, 1960-1995

No	Countries	1960s-1980s		1985s-1995s		1960s – 1995s		
		Growth (%)	Equality	Growth (%)	Equality	Change in growth (%)	Change in equality (%)	Correlation
1	2	3	4	5	6	7	8	9
1.	Spain	4.5	0.280	2.6	0.374	-1.9	0.095	-
2.	The United Kingdom	2.2	0.316	1.4	0.226	-0.8	-0.091	+
3.	Australia	2.7	0.348	1.4	0.263	-1.3	-0.085	+
4.	Italy	3.6	0.257	1.8	0.293	-1.8	0.035	-
5.	Canada	3.3	0.255	0.4	0.294	-2.9	0.039	-
6.	Finland	4	0.478	-0.2	0.322	-4.2	-0.156	+
7.	Hong Kong	6.8	0.230	4.8	0.230	-2.0	0.000	-
8.	Sweden	2.3	0.344	-0.1	0.358	-2.4	0.014	-
9.	Netherlands	3.2	0.370	1.9	0.355	-1.3	-0.015	-
10.	France	3.9	0.242	1.5	0.282	-2.4	0.039	-
11.	The United States	2.3	0.250	1.3	0.263	-1.0	0.013	-
12.	Denmark	3.3	0.336	1.5	0.311	-1.8	-0.025	+
13.	Norway	3.5	0.346	1.7	0.349	-1.8	0.003	-
14.	Japan	7.1	0.320	2.9	0.352	-4.2	0.032	-
15.	Switzerland	1.9	0.246	0.2	0.262	-1.7	0.017	-

Note: Correlation means correlation between the change in growth and the change in equality. Positive (+) correlation reflects that an increase (a decrease) in growth is followed by an increase (a decrease) in income equality or a decrease (an increase) in income inequality. In contrast, negative correlation (-) shows that an increase (a decrease) in growth is followed by a decrease (an increase) in income equality or an increase (a decrease) in income inequality.

Source: World Bank, *World Development Report, 1980* (New York: Oxford University Press, 1982), annex tab. 25
World Bank, *World Development Report, 1997: The State in a Changing World* (New York: Oxford University Press, 1997), annex tab. 5, **calculated.**

Table 1 shows that the 15 developed countries observed had a lower economic growth in 1985-1995 than in 1960-1980 but had differences in development of income distribution (column 7 and 8). In this table (column 6), a common indicator of income equality is the ratio of the income received by the bottom 40% and top 20% of the population, with bigger values meaning more equal distribution of income (Todaro 1994:135). This indicator has been shown in columns 4 and 6 for 1960s-1980s and 1985-1995 respectively. Some of the developed countries (11 countries) have more equal income distribution but the others (4 countries) have less equal income distribution that follows the reduction in economic growth.

In the United Kingdom, Australia, Finland and Denmark, there was a positive correlation between economic growth and income equality. When economic growth decreased, the income distribution became less equal (or income inequality widened). Australia, for example, had economic growth of around 2.7% per annum and an equality ratio of 0.348 during the 1960s-1980s. Yet, these decreased to 1.4% and 0.263 respectively. The decrease of economic growth had been followed by the increase of income inequality (the decrease of income equality). This pattern also happened in the United Kingdom, Finland and Denmark. In contrast, the decrease of economic growth followed by the decrease of income inequality (the increase of income equality) happened in Spain, Italy, Canada, Hong Kong, Sweden, the Netherlands, France, the United States, Norway, Japan and Switzerland.

Although it is seen previously that increase of economic growth is not always followed by decrease of income equality, the simple cross section statistical analysis finds that there was a negative correlation between growth and

Table 2. Regression and Correlation Result for Developed Countries

	Regression				Correlation		
	Coefficients	Standard Error	t Stat	P-value		growth 85 - 95	equality 85-95
1	2	3	4	5	6	7	8
Intercept	0.309135	0.020543	15.04826	1.33E-09	Growth 85-95	1	
Growth 85-95	-0.00456	0.010419	-0.43729	0.669075	Equality 85-95	-0.1204	1

Note: the equality is as a dependent variable and the growth is as an independent variable
Model: Inequality = a + b Growth
Source: see table 1, *calculated.*

Table 3. Trend Growth and Income Equality in Developing Countries, 1960-1995

No	Countries	1960s-1980s		1985s-1995s		1960-s – 1995s		
		Growth (%)	Equality	Growth (%)	Equality	Change in growth (%)	Change in equality	Correlation
1	2	3	4	5	6	7	8	9
Low Income Economies								
1.	Tanzania	1.9	0.202	1.0	0.240	-0.9	0.038	-
2.	Nepal	0.2	0.135	2.4	0.257	2.2	0.122	+
3.	Bangladesh	1	0.268	2.1	0.356	1.1	0.088	+
4.	India	1.4	0.186	3.2	0.284	1.8	0.098	+
5.	Ghana	-1	0.104	1.4	0.284	2.4	0.180	+
6.	Sri Lanka	2.4	0.270	2.6	0.333	0.2	0.064	+
Lower -Middle Income Economies								
7.	Indonesia	4	0.158	6.0	0.302	2.0	0.144	+
8.	Philippines	2.8	0.167	1.5	0.211	-1.3	0.045	-
9.	Peru	1.1	0.084	-1.6	0.183	-2.7	0.099	-
10.	Costa Rica	3.2	0.159	2.8	0.179	-0.4	0.021	-
11.	Panama	3.3	0.084	-0.4	0.105	-3.7	0.021	-
12.	Venezuela	2.6	0.135	0.5	0.122	-2.1	-0.014	+
Upper-Middle Income Economies								
13.	Mexico	2.6	0.121	0.1	0.141	-2.5	0.020	-
14.	Brazil	5.1	0.075	-0.8	0.073	-5.9	-0.002	+
15.	Malaysia	4.3	0.137	5.7	0.155	1.4	0.017	+
16.	Chile	1.6	0.175	6.1	0.108	4.5	-0.067	-

Note: Correlation means correlation between the change in growth and the change in equality. Positive (+) correlation reflects that an increase (a decrease) in growth is followed by an increase (a decrease) in income equality or a decrease (an increase) in income inequality. In contrast, negative correlation (-) shows that an increase (a decrease) in growth is followed by a decrease (an increase) in income equality or an increase (a decrease) in income inequality.
Source: World Bank, *World Development Report, 1980* (New York: Oxford University Press, 1982), annex tab. 25
World Bank, *World Development Report, 1997: The State in a Changing World* (New York: Oxford University Press, 1997), annex tab. 5, *calculated.*

equality (or positive correlation between growth and income inequality) (see Table 2). Coefficient regression -0.00456 means that if there is an increase in economic growth, the income distribution will be less equal. This negative relationship is also reflected by the correlation coefficient –0.1204. This result should also be interpreted carefully because the degree of significance is small (see t-stat). But, this result at least could be used as an indicator of an unambiguous relationship between growth and inequality in developed countries. Fields (in Todaro 1994:138) also found that in the case of Lewis-type modern sector enlargement growth such as western countries, Japan, South Korea and Taiwan, the increase of absolute income may improve or worsen the income inequality.

Table 3 shows trend in economic growth and income equality in developing countries. Almost all Low-income economies observed had higher income growth and more equal distribution of income in 1985-1995 than in 1960-1980. The positive correlation between economic growth and income equality is dominant in low-income economy observed. It is only Tanzania that had a negative correlation. In contrast, Middle income economies (lower and upper) observed had lower income growth in 1985-1995 than 1960-1980 except Indonesia, Malaysia and Chile. This decrease in economic growth mostly had been followed by increased income equality, except for Indonesia, Venezuela, Brazil and Malaysia.

Table 4. Regression and Correlation Result for Developing Countries

	Regression				Correlation		
	Coefficients	Standard Error	t Stat	P-value		growth 85 - 95	equality 85-95
1	2	3	4	5	6	7	8
Intercept	0.187706	0.029471	6.369085	1.74E-05	Growth 85-95	1	
Growth 85-95	0.010131	0.00964	1.050972	0.311075	Equality 85-95	0.270419	1

Note: the change equality is as a dependent variable and the change of growth is as an independent variable
Model: Inequality = a + b Growth
Source: see table 1, *calculated.*

Table 4 shows the simple cross-section statistical analysis. It is found that there was a positive correlation between growth and equality (or negative correlation between growth and income inequality). Coefficient regression 0.010131 means that if there is an increase in economic growth, the income distribution will be more equal. This positive relationship is also reflected by correlation coefficient 0.0270419. This result should also be interpreted carefully because the degree of significance is small (see t-stat). But, this result at least could be used as an indicator of an unambiguous relationship between growth and inequality in developing countries.

From the 4 previous tables, it can be said that there is not the same pattern of relationship between economic growth and income equality, not only in developed countries but also in developing countries. The United Kingdom, Australia, Finland, Denmark, Nepal, Bangladesh, India, Ghana, Sri Lanka, Indonesia, Venezuela, Brazil and Malaysia had positive correlation between economic growth and income equality. In contrast, the decrease of economic growth followed by the increase of income equality happened in Spain, Italy, Canada, Hong Kong, Sweden, the Netherlands, France, the United States, Norway, Japan, Switzerland, Tanzania, the Philippines, Peru, Costa Rica, Panama, and Mexico.

Nevertheless, the pattern can be said statistically that there was a different pattern of growth-equality relationship between developed countries and developing countries. In developed countries, there is a tendency that the decrease of economic growth is followed by increase of income equality. Yet in developing countries, there is a tendency of positive correlation between the growth and income equality, where an increase of economic growth was followed by an increase of income equality.

WHY DO THEY DIFFER?

The different patterns of the growth-equality relationship between developed countries and developing counties are very interesting to analyze. Why did they have different patterns? Some main reasons of why there are different patterns of the relationship between the economic growth and the income equality among countries are a starting point, the structure of the economy and the system of economy.

Firstly, the pattern differs because each country has a different starting point of history and economic growth in creating efficiency. Most developing countries were colonies of the Western countries, primarily Britain and France but also Belgium, the Netherlands, Germany, Portugal and Spain. Under colonization, the aspects of life such as education, social and political institutions were determined and modeled by former colonial rules. America Latin (colonized by Spanish and Portuguese), India (British), Philippines (Spanish and American), Vietnam (French) and Indonesia (Dutch) have different institutional and social patterns (Todaro 1994:34). These have affected the countries after independence. For example, if the former colonial country gave education to the colonized people, they would be more equally educated. In contrast, the developed countries were never colonized by the other countries. They can independently make economic polices. As a result, they can create efficiency in all aspect of life and get high economic growth.

The developing countries had low economic growth in the beginning of the development process so it was easy to create high economic growth later. There was a lot of unemployment (inefficiency) of resources in developing countries, so by relocating of resources the developing countries could create economic growth. In contrast, the developed countries (high-income economies) have low economic growth because almost all of the resources have been already allocated efficiently. Barro and Martin found that the 20 members of the OECD (Organization for Economic Cooperation and Development) have a low trend of economic growth at the beginning of the sample in 1960, but the low income countries have high economic growth because almost all resources have not been allocated efficiently yet (1995:33).

Secondly, the structure of economy, agriculture or industry has also affected growth and income equality through a process of capital accumulation (saving and investment). Field (1980) (in Todaro 1994: 137) found that the distribution of income depends on the basic element of how the economy grows (modern/industry sector or traditional agriculture sector). The agriculture sector has low capital accumulation, so the distribution of income will be more equal than the industry sector that has high capital accumulation. The low capital accumulation in the agriculture system is caused by the low saving from farmers (usually poor) who are at the subsistence level in the developing countries, and the high capital accumulation in the developed countries is caused by rich capitalists (Nugent, 1988:16). The developed countries have usually based their economic growth on the industrial sector but the developing countries are more focused on the agriculture sector in the beginning of the development process.

Finally, the system of economy applied in a country will affect the market aspects such as information, education, employment, openness in trade, investment and politics. In the extrem, there are two kinds of system of economy, namely the market system and control system. In the market, the market mechanism is believed to solve the three main economic problems: what, how and for whom. Efficiency of resources will be reached automatically in this system but there is no guarantee of fairness in distribution of income. Lewis (1978) states that the economic freedom consists of individualism and collective action, vertical mobility and freedom of the market. For example, Asian countries had opened up their economies by 1970, with Indonesia being the last to liberalize in 1970,

and have incomes which are becoming less dispersed (ADB 1996:14). On the other hand, the government intervenes in solving those main economic problems, so the distribution of income becomes very crucial thing economically and politically without regarding the efficiency of resources too much. How government intervenes is very important, because of laizes-faire, market distortion, and externalities. But it is not rare that the government intervention creates some distortion in the market. For example, China established the proportion of the direct planned value in national gross industry output about 70% and the proportion of retail sales about 79% in 1979 but these have been reduced to 5% and 6% respectively (CIRD and ISCASC 1998: 48).

SOME POLICIES TO OVERCOME THE TRADE OFF

There are some development-policies to overcome the trade-off such as redistribution of ownership, relative factor prices, taxes and direct transfer.

Firstly, creating the optimal size of asset ownership. The process of production can be done if the factors of production are available. The ownership concentration of these factors of production will determine the distribution of income. The main cause of unequal distribution of income in most third world countries is the unequal and highly concentrated resources (asset/production factor) ownership. These factors of production are not only physical production factors such as capital and land but also human capital in the form of better education. The famous case of redistribution is land reform that is aimed to transform tenant cultivators into small-holders who will have the incentive to raise and improve their income. But again, the economies of scale should be of concern in land reform. The other redistribution is to give opportunities to the poor people to get better education.

Secondly, encouraging distribution of income through policies designed to change relative factor prices. Output prices of industry (manufacture) are always relatively higher than agriculture because of the development of the quality of industrial (manufacture) output grows faster than the quality of agricultural output. Relating this with the accumulation of capital, remove the investment incentives, tax allowances, subsidized interest rate, overvalued exchange rate and low tariff on capital goods imports will increase the price of capital. Moreover, producers will decrease the utilization of capital and increase their utilization of the abundant supply of lower of capital. As a result the owner of capital (both financial and physical) would not receive a high return for capital. The relative price will change whereas wage increases and the interest rate decreases relatively. Permanent trade adjustment cost occurs if an individual loses her/his job because of trade and must permanently accept a lower-paying job. However an expansion of trade may provide her/him with better employment opportunities, in which she/he would enjoy permanent benefits (Walther 1997:20). In some developing countries, some incentives (factor-price distortion) are given by government to encourage foreign and domestic investment modifying the size of distributions through progressive redistribution of asset ownership

Thirdly, the traditional policies in reducing the size distribution at the upper levels, not only through progressive income and wealth taxes but also through direct transfer payment and the public provision of services should be applied. Direct money transfer and subsidized programs for the poor are more useful if they are allocated to increase skill and human capital from the poor. Cooper (1998:171) states that transfer of human expenditure across neighborhoods can not only take place voluntarily tax revenue but also can eliminate absolute inequality and reduce relative inequality.

CONCLUSION

There is no guarantee that the increase of economic growth is always followed by the decrease of income inequality for all countries. A country in the developed countries group or in the developing group might have a positive or a negative correlation between the economic growth and income equality. But cross country statistical analysis shows that there is a positive correlation between economic growth and income inequality in developed countries but a negative correlation in developing countries.

The different patterns of correlation between economic growth and income inequality might be strongly caused by some differences in the origins of economic development (starting point), the structure of the economy (agriculture or industry in accumulation of capital) and the system of the economy between developed countries and developing countries. Former colonized countries, poorly educated people, low accumulation of capital and transformation from a planned to a market system, have created high growth and more income equality for developing countries.

Some policies could be recommended to overcome the trade off between growth and income inequality such as asset ownership, relative factor prices, progressive income and wealth, direct transfer payment and the public provision of services. Redistribution of ownership is aimed to correct the concentration of assets becoming more equal. Policies in relative factor prices should be based on the comparative advantage and competitive advantage of the countries. If the country has abundant labour, policies can be arranged to increase the productivity of labor. In addition, government and society should be concerned about education and skills for poor people to create human capital.

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The whole of science is
nothing more than the refinement of everyday thinking
(Albert Einstein)

While humanity shares one planet, it is a planet on which there are two worlds, the world of the rich and the world of the poor.
(Raanan Weitz)